2009, Mathematics - Grade 8

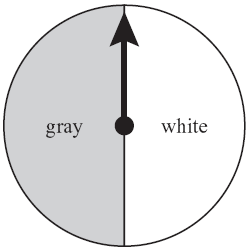
Question 11: Open-Response

Reporting Category: Data Analysis, Statistics, and Probability

Standard: 8.D.4

This item does not allow use of a calculator

Daniel has a spinner divided into two congruent sections, as shown below.



1. Daniel will spin the arrow on the spinner one time. What is the probability that the arrow will stop in the gray section? Show or explain how you got your answer.

2. Daniel will spin the arrow two times. What is the probability that the arrow will stop in the gray section both times? Show or explain how you got your answer.

3. Daniel will spin the arrow three times. In your Student Answer Booklet, construct a tree diagram that shows all the possible outcomes that can occur.

4. Based on your diagram from part (c), what is the probability that the arrow will stop in the white section at least one time when Daniel spins the arrow three times? Show or explain how you got your answer.

2008, Mathematics - Grade 8

Question 39: Open-Response

Reporting Category: Data Analysis, Statistics, and Probability

Standard: 8.D.4

This item allows use of a calculator

The manager of a car dealership is ordering a new car. The options for the new car are shown in the table below.

***Options for New Car***

**Color Roof style Number of doors**

White hard top 2 doors

Red convertible 4 doors

Silver

The manager decides to let his computer randomly select one option for each of the three categories in the table.

1. Based on the table, what is the total number of combinations of 1 color, 1 roof style, and 1 number of doors that can be selected for the new car? Show or explain how you got your answer.

2. What is the probability that the computer will select a hard top for the new car? Show or explain how you got your answer.

3. What is the probability that the computer will not select white for the new car's color? Show or explain how you got your answer.

4. What is the probability that the computer will select for the new car to both be silver and have 2 doors? Show or explain how you got your answer.

2007, Mathematics - Grade 8

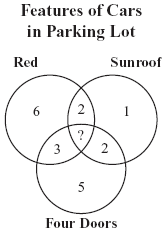
Question 39: Open-Response

Reporting Category: Data Analysis, Statistics, and Probability

Standard: 8.D.2

This item allows use of a calculator

Brad made the Venn diagram below to show the number of cars in a parking lot that were red, had four doors, had a sunroof, or had any combination of those features. He left one number off his Venn diagram.



a. Describe what the 6 represents in the Venn diagram.

b. A total of 20 cars in the parking lot were red, had four doors, had a sunroof, or had any combination of those features. What number should Brad put in place of the "?" in the center section of his Venn diagram? Show or explain how you got your answer.

c. What was the total number of cars in the parking lot that were red? Show or explain how you got your answer.

2005, Mathematics - Grade 8

Question 29: Open-Response

Reporting Category: Data Analysis, Statistics, and Probability

Standard: 8.D.3

This item allows use of a calculator

Glenn bowls in a bowling league every Saturday morning. Last Saturday, the scores from Glenn’s first 3 bowling games were 141, 128, and 157.

1. What is the mean of the scores from Glenn’s first 3 games? Show or explain how you got your answer.

2. Glenn will bowl a fourth game. What will he have to bowl in his fourth game to have a mean of 150 for the 4 games? Show or explain how you got your answer.

3. Each player in Glenn’s bowling league is given a handicap, which allows players of different abilities to compete equally. A player’s handicap is determined with the following formula.

|  |
| --- |
| *A player’s handicap is equal to 80 percent of the difference between the player’s average (mean) and 220.* |

Miguel is Glenn’s teammate. If Miguel’s average (mean) is 130, what is his handicap? Show or explain how you got your answer.

2004, Mathematics - Grade 8

Question 9: Open-Response

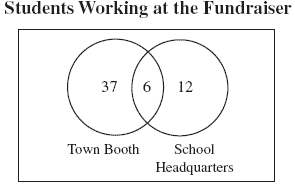
Reporting Category: Data Analysis, Statistics, and Probability

Standard: 8.D.2

This item does not allow use of a calculator

Last weekend, Lauren helped organize some students to participate in a fundraiser for charity. Students had a choice of working one shift at the information booth in town or one shift at the school headquarters. Students could also choose to work 2 shifts, one in town and one at school.

After the fundraiser, Lauren prepared a report for the school board. In her report, she drew the Venn diagram below to show where the students worked.



1. Based on the Venn diagram, how many students worked shifts at the Town Booth?

2. Based on the Venn diagram, how many students participated in the fundraiser?

3. Lauren could have drawn a bar graph to represent the same information as the Venn diagram. In your Student Answer Booklet, create a bar graph that contains the same information as the Venn diagram.

2003, Mathematics - Grade 8

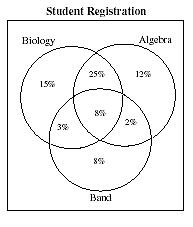
Question 9: Open-Response

Reporting Category: Data Analysis, Statistics, and Probability

Standard: 8.D.2

This item does not allow use of a calculator

At student registration, eighth-grade students selected the courses they would be taking next year as ninth graders. The counselor made the diagram below that shows a relationship among the percentages of students who chose to take Biology, Algebra, and/or Band.



1. According to the diagram, what percent of the eighth-grade students will be taking all three courses, Biology, Algebra, and Band, next year?

2. What percent of the eighth-grade students will be taking Algebra and Biology, but not Band, next year?

3. If 900 students signed up to take courses, how many will not be taking Biology, Algebra or Band? Show or explain your work.